

This listing of claims will replace all prior versions,
and listings, of claims in the application:

1 Claim 1 (original): A method of operating a system to
2 process image data for storage and retrieval, the method
3 comprising the steps of:
4 analyzing said image data to be encoded to
5 determine, for each image represented by the image data, a
6 level of encoding complexity;
7 encoding said image data according to a first
8 encoding format to generate first encoded image data; and
9 storing with the first encoded image data
10 encoding complexity level information indicating at least
11 one determined level of encoding complexity associated with
12 the first encoded image data.

1 Claim 2 (currently amended): ~~The method of claim 1,~~
2 ~~further comprising the step of:~~ A method of operating a
3 system to process image data for storage and retrieval, the
4 method comprising the steps of:
5 analyzing said image data to be encoded to
6 determine, for each image represented by the image data, a
7 level of encoding complexity;
8 encoding said image data according to a first
9 encoding format to generate first encoded image data;
10 storing with the first encoded image data
11 encoding complexity level information indicating at least
12 one determined level of encoding complexity associated with
13 the first encoded image data;
14 retrieving the first encoded image data and
15 encoding complexity level information from the storage
16 device;

17 decoding the first encoded image data to generate
18 decoded image data;
19 determining at least one encoding parameter to be
20 used to re-encode the decoded image data as a function of
21 the retrieved encoding complexity level information; and
22 re-encoding the generated decoded image data
23 using the encoding parameter determined as a function of
24 the retrieved encoding complexity level information.

1 Claim 3 (original): The method of claim 1, further
2 comprising the steps of:
3 performing an automated image content analysis
4 operation on at least one image represented by said image
5 data; and
6 storing, with the first encoded image data, image
7 content description information generated by performing
8 said content analysis operation.

1 Claim 4 (original): The method of claim 3, further
2 comprising the steps of:
3 receiving image content information from a user
4 of the system; and
5 storing, with the first encoded image data and
6 the image content description information generated by
7 performing said content analysis operation, the image
8 content description information received from the system
9 user.

1 Claim 5 (currently amended): ~~The method of claim 3 further~~
2 ~~comprising the steps of:~~ A method of operating a system to
3 process image data for storage and retrieval, the method
4 comprising the steps of:

5 analyzing said image data to be encoded to
6 determine, for each image represented by the image data, a
7 level of encoding complexity;
8 encoding said image data according to a first
9 encoding format to generate first encoded image data;
10 storing with the first encoded image data
11 encoding complexity level information indicating at least
12 one determined level of encoding complexity associated with
13 the first encoded image data;
14 retrieving the first encoded image data and image
15 content description information from the storage device;
16 decoding the first encoded image data to generate
17 decoded image data;
18 determining at least one encoding parameter to be
19 used to re-encode the decoded image data as a function of
20 the retrieved image content description information; and
21 re-encoding the generated decoded image data
22 using the encoding parameter determined as a function of
23 the retrieved image content description information.

1 Claim 6 (original): The method of claim 1, further
2 comprising the step of:
3 selecting, based on the determined encoding
4 complexity level information, an image represented by the
5 first encoded image data, to be viewed after decoding.

1 Claim 7 (original): The method of claim 6, further
2 comprising the step of:
3 decoding the encoded image data representing the
4 selected image to generate decoded image data; and
5 displaying the decoded selected image on a
6 display device.

1 Claim 8 (original): The method of claim 7, wherein said
2 step of decoding the encoded image data is performed as
3 part of said encoding step.

1 Claim 9 (currently amended): ~~The method of claim 1,~~
2 ~~further comprising:~~ A method of operating a system to
3 process image data for storage and retrieval, the method
4 comprising the steps of:
5 analyzing said image data to be encoded to
6 determine, for each image represented by the image data, a
7 level of encoding complexity;
8 encoding said image data according to a first
9 encoding format to generate first encoded image data;
10 storing with the first encoded image data
11 encoding complexity level information indicating at least
12 one determined level of encoding complexity associated with
13 the first encoded image data; and
14 selecting the first encoding format from a
15 plurality of supported encoding formats, as a function of
16 the determined level of encoding complexity.

1 Claim 10 (original): The method of claim 9, further
2 comprising the step of:
3 receiving data storage limitation information;
4 and
5 wherein the step of selecting the first encoding
6 format is also performed as a function of the received data
7 storage limitation information.

1 Claim 11 (original): The method of claim 1, further
2 comprising the step of:

3 retrieving the first encoded image data and
4 encoding complexity level information; and
5 using the retrieved encoding complexity level
6 information to identify at least one data format suitable
7 for distributing an image represented by the first encoded
8 image data, the identified data format being different from
9 the first encoding format.

1 Claim 12 (original): The method of claim 11, further
2 comprising the step of:
3 presenting to a user of the system a plurality of
4 data formats suitable for distributing the image
5 represented by the first encoded image data, the identified
6 data format being one of said plurality of presented data
7 formats;
8 receiving from the user information selecting one
9 of the presented data formats for use in distributing the
10 image; and
11 converting at least a portion of the first
12 encoded image data from the first encoding format to the
13 user selected data format.

1 Claim 13 (original): The method of claim 1, wherein the
2 step of analyzing image data to be encoded to determine,
3 for each image represented by the image data, a level of
4 encoding complexity includes:
5 generating an activity measure for at least one
6 image represented by said image data.

1 Claim 14 (original): The method of claim 1, wherein the
2 step of analyzing image data to be encoded to determine,

3 for each image represented by the image data, a level of
4 encoding complexity includes:
5 generating a measure of the luminance variance
6 throughout at least one image represented by said image
7 data.

1 Claim 15 (original): The method of claim 1, wherein the
2 step of analyzing image data to be encoded to determine,
3 for each image represented by the image data, a level of
4 encoding complexity includes:
5 generating a measure of the chrominance variance
6 throughout at least one image represented by said image
7 data.

1 Claim 16 (original): The method of claim 1, wherein the
2 step of analyzing image data to be encoded to determine,
3 for each image represented by the image data, a level of
4 encoding complexity includes:
5 generating a measure of the motion between at
6 least two complete frames, each frame corresponding to a
7 different image.

1 Claim 17 (original): The method of claim 1, further
2 comprising:
3 generating true motion vectors indicating motion
4 between a first image and a second image;
5 generating in accordance with the first encoding
6 format, as part of said step of encoding said image data, a
7 set of motion vectors indicating motion between said first
8 image and said second image, said set of motion vectors
9 including at least some motion vectors which are different
10 from said true motion vectors; and

11 storing the true motion vectors with the first
12 encoded image data which includes said set of motion
13 vectors.

1 Claim 18 (currently amended): A method of operating a
2 system to process image data for storage and retrieval, the
3 method comprising the steps of:

4 performing an automated scene analysis operation
5 on said image data to be encoded to generate image content
6 information said image content information indicating the
7 type of scene depicted by said image data to be encoded;

8 encoding said image data according to a first
9 encoding format to generate first encoded image data; and

10 storing the generated image content information
11 in a file with the first encoded image data.

1 Claim 19 (currently amended): ~~The method of claim 18,~~
2 ~~further comprising:~~ A method of operating a system to
3 process image data for storage and retrieval, the method
4 comprising the steps of:

5 performing an automated scene analysis operation
6 on said image data to be encoded to generate image content
7 information;

8 encoding said image data according to a first
9 encoding format to generate first encoded image data;

10 storing the generated image content information
11 in a file with the first encoded image data;

12 receiving additional image content information
13 from a user of the system;

14 storing the additional image content information
15 in said file with the first encoded image data;

16 retrieving from storage the stored first encoded
17 image data, said generated content information, and said
18 additional content information;
19 selecting a second encoding format to be used for
20 outputting images represented by said first encoded image
21 data as a function of at least one of said generated
22 content information and said additional content
23 information; and
24 re-encoding said first encoded image data to said
25 second encoding format to generate second encoded image
26 data.

1 Claim 20 (original): The method of claim 19, wherein the
2 generated image content information indicates the pictorial
3 content of an image.

1 Claim 21 (original): The method of claim 20, wherein the
2 additional image content information includes a description
3 of the pictorial content of at least one image.

1 Claim 22 (original): The method of claim 20, wherein the
2 step of re-encoding said first encoded image data includes:
3 decoding said first encoded image data to
4 generate decoded image data; and
5 re-encoding said first encoded image data using
6 at least one encoding parameter generated as a function of
7 said generated image content information.

1 Claim 23 (original): A system for processing image data
2 for storage and retrieval purposes, the system comprising:

3 a scene analysis module for performing scene
4 analysis on said image data to generate image content
5 information;
6 means for receiving additional image content
7 information from a user of the system;
8 an encoder for encoding said image data according
9 to a first encoding format to generate first encoded image
10 data; and
11 a storage device for storing the first encoded
12 image data, said generated image content information and
13 said additional image content information in a file.

1 Claim 24 (currently amended): ~~The system of claim 23,~~
2 ~~further comprising:~~ A system for processing image data for
3 storage and retrieval purposes, the system comprising:
4 a scene analysis module for performing scene
5 analysis on said image data to generate image content
6 information;
7 means for receiving additional image content
8 information from a user of the system;
9 an encoder for encoding said image data according
10 to a first encoding format to generate first encoded image
11 data;
12 a storage device for storing the first encoded
13 image data, said generated image content information and
14 said additional image content information in a file;
15 means for retrieving from storage the stored
16 first encoded image data, said generated content
17 information, and said additional content information;
18 means for selecting, as a function of at least
19 one of said generated content information and said
20 additional content information, a second encoding format to

21 be used for outputting images represented by said first
22 encoded image data; and
23 a second encoder for re-encoding said first
24 encoded image data to said second encoding format to
25 generate second encoded image data.

1 Claim 25 (original): A system for processing data
2 including at least one of image data and audio data, the
3 system comprising:
4 an analysis module for analyzing data to be
5 encoded and to assign one of a plurality of encoding levels
6 of complexity to the data to be encoded;
7 an encoder for generating encoded data from said
8 data to be encoded;
9 a file wrapper module for incorporating an
10 encoding complexity level identifier indicating the
11 encoding complexity level assigned to said data to be
12 encoded and said encoded data into a single file; and
13 a data storage device for storing said single
14 file.

1 Claim 26 (currently amended): ~~The system of claim 25,~~
2 ~~wherein the encoded data is~~ A system for processing encoded
3 image data, the system further comprising:
4 an analysis module for analyzing data to be
5 encoded and to assign one of a plurality of encoding levels
6 of complexity to the data to be encoded;
7 an encoder for generating encoded data from said
8 data to be encoded;
9 a file wrapper module for incorporating an
10 encoding complexity level identifier indicating the

11 encoding complexity level assigned to said data to be
12 encoded and said encoded data into a single file; and
13 a data storage device for storing said single
14 file; and
15 a preview module coupled to said encoder and said
16 analysis module for displaying a subset of the images
17 represented by encoded data generated by said encoder, the
18 displayed images being selected for display as a function
19 of encoding complexity level information associated with
20 said encoded data.

1 Claim 27 (currently amended): The system of claim 26 ~~20~~,
2 wherein the preview module selects images represented by
3 image data assigned a higher than average encoding
4 complexity level for display.